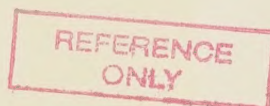
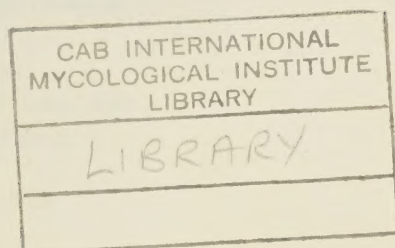


Biodeterioration Abstracts

Volume 2



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BIODETERIORATION ABSTRACTS

READERS' GUIDE

Biodeterioration Abstracts is compiled from the CAB ABSTRACTS database, and includes occasional review articles on topics of importance.

The primary object of Biodeterioration Abstracts is to provide a quarterly survey of the more important recent world literature on the biodeterioration of materials, artefacts or facilities of economic importance (including foodstuffs, timber, fuels, construction materials, etc.) by living organisms (including microorganisms, insects, rodents, higher plants, etc.) and on biodegradation of waste materials to less objectionable, more easily disposable or higher-value products by living organisms.

Serial publications, including other abstracting journals, together with miscellaneous publications and books are scanned. An effort is made to note all new data; previously published information, well known facts and popular articles may be omitted. Some background papers are given very brief notices, and some of local or marginal interest are cited by titles only.

When consulting an entry the reader should remember that the title is an integral part of the abstract and may include data necessary for its full comprehension.

In a typical citation the name(s) of the author(s) are followed by the title of the paper in English. If the paper is written in a language other than English, the English translation of the title is enclosed in square brackets. The title in the original language, if not English, follows, except for Arabic, Chinese, Japanese, or languages in the Cyrillic script, etc. Journal titles are next given in unabbreviated form. The year of issue, in round brackets, the volume number, part number in round brackets, and first and last page numbers of the article complete the basic citation.

Supplementary details given in square brackets include the language of the paper (a two-letter abbreviation with an initial capital) and the language of any summary or summaries in languages other than that of the paper (a similar abbreviation without an initial capital); and there may also be included the number of references. The affiliation of the first author is usually given in abbreviated form.

The abstracts are arranged in a repeating series based on subject content, as indicated by page and section headings. The quarterly contents list follows the same pattern.

An author and subject index are provided.

The CAB ABSTRACTS database from which this journal is compiled consists of over 2 million records on agricultural and related literature. Online access to the database is available from a number of host organizations including CAB International (UK), BRS Information Technologies (USA), CAN/OLE (Canada), DIALOG Information Services (USA, Europe, Far East, Australasia), DIMDI (FRG), ESA-IRS (Europe), JICST (Japan) and Tsukuba Daigaku (Japan).

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C·A·B INTERNATIONAL

CAB International (CABI) is a not-for-profit, intergovernmental organization registered with the United Nations. It is owned and administered by its member governments; these currently number 28, but membership is open to all governments who wish to participate. Established in 1928, the organization provides information, scientific, and development services for agriculture and allied disciplines throughout the world.

Information Services

The main task of the Information Services, located at the CAB International Centre (CABIC) at Wallingford, is the creation of a bibliographic database of research on agriculture, forestry and allied disciplines, including social sciences and aspects of human medicine. Abstract journals derived from the database, and online access to it, provide a unique source of information for research scientists, development planners, educators and students. Subsidiary but growing tasks are the publication of primary journals and reference works, and training information professionals in developing countries.

The Accessions Unit acquires the relevant scientific and technical literature for abstracting by almost 100 scientists/linguists in the following 11 Bureaux:

Agricultural Economics
Animal Breeding & Genetics
Animal Health
Dairy Science & Technology
Nutrition
Pastures & Field Crops

Crop Protection
Horticulture & Plantation Crops
Plant Breeding & Genetics
Soils
Forestry

Further material is acquired and processed by collaborating or contracted organizations. Other staff coordinate work on specialized directories and databanks, and commission new books and primary journals. The Publications Unit is responsible for printing the journals and books, and the Marketing & Sales Division promotes and sells Information Services products and services worldwide.

Scientific Services

CABI's Scientific Services consist of four Institutes and two support services:

CAB International Institute of Entomology (CIE), Director Dr K.M. Harris, located at 56 Queen's Gate, London, and in the British Museum, Natural History.

CAB International Mycological Institute (CMI), Director Professor D.L. Hawksworth, located at Ferry Lane, Kew, London, adjacent to the Royal Botanic Gardens.

CAB International Institute of Parasitology (CIP), Director Dr R. Muller, located at Winches Farm, St. Albans, the field station of the London School of Hygiene & Tropical Medicine.

These three Institutes provide an authoritative identification service for agricultural pests and other organisms, conduct research, implement projects, and provide training in their fields of expertise.

CAB International Institute of Biological Control (CIBC), Director Dr D.J. Greathead, has its headquarters at Silwood Park, Ascot, the field station of Imperial College of Science and Technology, University of London. It has stations in Trinidad and Tobago, Switzerland, Pakistan, Kenya and Malaysia. It provides biocontrol services, conducts training, and participates in integrated pest management programmes.

Development Services (CDS), Head Mr D. Heydon, integrate the broad range of CABI expertise to provide advice and assistance with agricultural problems, but particularly those related to pest management and information services.

Library Services, Manager Mr C.J. Hamilton, have their headquarters with CIBC at Silwood Park, where the main Library is held, with additional literature collections at CMI, CIP, CDS and CABIC. Library Services operate a Document Delivery Service.

Systems

The Systems Division provides computing resources and services to all parts of CABI. It maintains a central computing facility with telecommunications access to seven remote sites, including the four CABI Institutes. CABIC is served by a modern Local Area Network which provides access to the computers, and by advanced office automation facilities. The main computers are DEC VAX systems and the principal software systems are BASIS for data management and PAGER for typesetting and information retrieval.

The staff of 20 includes database production personnel, systems analysts, programmers and computer operators. The principal systems are for the production of the CABI bibliographic database and associated functions, plus accessions control, subscription management and electronic publishing.

C·A·B INTERNATIONAL INFORMATION SERVICES PRODUCTS AND SERVICES

Almost 100 scientists/linguists in the 11 Bureaux of CABI's Information Services at Wallingford, UK, with help from associated organizations and individuals worldwide, abstract and index the significant research and development literature in agriculture, forestry and allied disciplines. Over 10000 serials and many other publications are scanned, and approximately 130000 bibliographic records are compiled each year. From this computerized database is derived a wide range of information services and products in hard copy and machine-readable form, designed to meet a variety of customer needs.

HARD COPY PRODUCTS

Abstract journals

The following abstract journals on specific disciplines, specialist crops or products, or particular livestock are published, mostly monthly or quarterly. Each has author and subject indexes, cumulated annually in a special issue of the journal.

Animal Science and Production

Animal Breeding Abstracts; Dairy Science Abstracts; Nutrition Abstracts & Reviews, Series B—Livestock Feeds & Feeding; Pig News & Information; Poultry Abstracts.

Veterinary Science and Parasitic Diseases

Animal Disease Occurrence; Helminthological Abstracts, Series A—Animal & Human Helminthology; Index Veterinarius; Protozoological Abstracts; Review of Applied Entomology, Series B—Medical & Veterinary; Review of Medical & Veterinary Mycology; Small Animal Abstracts; Veterinary Bulletin.

Crop Science and Production

Cotton & Tropical Fibres Abstracts; Crop Physiology Abstracts; Faba Bean Abstracts; Field Crop Abstracts; Herbage Abstracts; Horticultural Abstracts; Irrigation & Drainage Abstracts; Lentil Abstracts; Maize Abstracts; Ornamental Horticulture; Plant Breeding Abstracts; Plant Growth Regulator Abstracts; Potato Abstracts; Rice Abstracts; Seed Abstracts; Soils & Fertilizers; Sorghum & Millets Abstracts; Soyabean Abstracts; Tropical Oil Seeds Abstracts; Wheat, Barley & Triticale Abstracts.

Forestry

Agroforestry Abstracts; Forest Products Abstracts; Forestry Abstracts.

Crop Protection

Biocontrol News & Information; Helminthological Abstracts, Series B—Plant Nematology; Review of Applied Entomology, Series A—Agricultural; Review of Plant Pathology; Weed Abstracts.

Economics, Development and Sociology

Leisure, Recreation & Tourism Abstracts; Rural Development Abstracts; Rural Extension, Education & Training Abstracts; World Agricultural Economics & Rural Sociology Abstracts.

Machinery and Buildings

Agricultural Engineering Abstracts.

Human Nutrition

Nutrition Abstracts & Review, Series A—Human & Experimental.

Biotechnology/Biodeterioration

AgBiotech News & Information; Biodeterioration Abstracts.

Also published is a new series of current awareness publications (CAB Prompts) on specific crops. Subject indexes are not provided. Titles in the series so far are: *Groundnuts* and *Chickpeas/Pigeonpeas*.

Many retrospective compilations of abstracts (Annotated Bibliographies) on various topics are available on demand.

SDI Service

SDI (Selective Dissemination of Information) is a regular current awareness service based on the most recent input to the database. Subscribers decide their own search profile and receive search results at intervals of their own choice, either as computer printout or on floppy discs suitable for most microcomputers. Airmail ensures fast delivery.

CAB Alerts

This is a special SDI service providing subscribers each month with the search results from standard profiles chosen by CABI. Numerous titles are available and the list is regularly updated to reflect new subject interests. Output is available on computer printout posted by airmail.

MACHINE-READABLE PRODUCTS AND SERVICES

Online Access

The machine-readable database, known as CAB ABSTRACTS, is publicly accessible online through DIALOG Information Services (USA), BRS Information Technologies (USA), ESA-IRS (Italy), DIMDI (GFR), JICST (Japan), CAN-OLE (Canada) and Tsukuba Daigaku (Japan). The whole database back to 1973 contains over 2 million records. Search aids include the CAB ABSTRACTS Online Manual, the CAB Thesaurus (1988 Edition) and the CAB International Serials Checklist (1988).

Magnetic tapes

Organizations with access to mini or mainframe computers may lease all or part of CAB ABSTRACTS on magnetic tape. Update tapes are issued monthly, and retrospective tapes as required.

OTHER PRODUCTS AND SERVICES

Document Delivery Service

Photocopies of originals of most articles included in the database are available from CABI Library Services, Silwood Park, Ascot, UK. Documents may also be ordered online via DIALOG's DIALORDER or ESA/IRS's PRIMORDIAL.

Books and serial publications

CABI publishes authoritative reference books, directories and serial publications, the latter including *Bulletin of Entomological Research*, *Index of Current Research on Pigs*, *Distribution Maps of Pests*, *Distribution Maps of Plant Diseases*, *Bibliography of Systematic Mycology*, *Descriptions of Pathogenic Fungi & Bacteria*, *Index of Fungi*, and *Systema Ascomycetum*. CABI is a co-sponsor of the International Food Information Service which publishes *Food Science & Technology Abstracts*.